TABLE 2a

Results of antibody binding with different cell lines

Antibodies		Cell Line MCF-7	Cell line SKBR3	Cell line T47D	Cell line MDA231	Cell line MDA435	Cell line DU145	Cell line FEMX-1	Cell line LOX
NrLu10	IgG2b		+	+	(+)	(+)	+		
Moc31	IgG1	+	+	+	(+)	(+)	+		
Moc1	IgG1			(+)	(+)	+			
12H12	IgG1		+	+		+	+		
2E11	IgG3	+	+	+		+	+		
5A6	IgG1		(+)	+					
5F2	IgM			(+)					
CC3	IgG2a	-	-	-				-	
CC1	IgM			-				(+)	
CU18	IgG1	-	-	-					
CU46	IgG1	(+)	-	-					
7F11	IgG1	-	-	+			-	-	-
ID7	IgG3			(+)					
E4SF	IgG1		+	+			(-)	-	50%+
425-3				+				-	+
9.2.27								+	+
MUC18			-				-	-	-
2g12	IgG1							+	
4b7								+	
IgG1		+		+				+	
BCRU-G7	IgM								

TABLE 2b

Results of antibody binding with different cell lines

Antibodies		Cell Line PM1	Cell line MA-11	Cell line CRL-1435	Cell line CRL-1740	Cell line H-146	Cell line Colo-205	Cell line 786-O	Cell line WIDr
NrLu10	IgG2b	+	+	+	+	+	+	-	
Moc31	IgG1	+	+	+	+	+	+	+	+
Moc1	IgG1					+	-		
12H12	IgG1	+	+	(+)		-	-	-	
2E11	IgG3	(+)	+	-	+	-	-	-	
5A6	IgG1	+	+						
CC3	IgG2a					-		-	
CC1	IgM					(+)		-	
CU18	IgG1					-		-	
CU46	IgG1					-		-	
7F11	IgG1	(+)	+	-		-	-		-
ID7	IgG3					-	-		-
E4SF	IgG1	+	+	+	+	-	-		-
MUC18		-							
2g12	IgG1					-		-	
4b7	IgG1					-		-	
BM2 (=2F11)		+	+						
BM7 (=7F11)		+							
GINTES	IgG					+			-
3C9	IgM					-			-
HH8	IgM					-			-
5F4	IgM					-			-
3F1	IgG1					-			-

What is claimed is:

1. A method for detecting a specific target cell in a cell suspension, the cell suspension comprising a mixed cell population, a fluid system containing a mixed cell population, or a homogenous cell population prepared from a solid tissue, without detection of normal and malignant hematopoietic cells, the method comprising:

a. coating paramagnetic particles with an antibody or antibody fragment reactive with an antigen membrane structure specifically expressed on the target cell and not on a non-target cell in the cell suspension;

b. contacting the coated paramagnetic particles with the cell suspension;

c. incubating and rotating the mixture of coated paramagnetic particles and cell suspension;

d. incubating the mixture of coated paramagnetic particles and cell suspension with an additional antibody or antibody fragment that is the same or different as that stated in (a), and binding the additional antibody or fragment to an antigen membrane structure specifically expressed on the target cell, that is the same or different as that stated in (a), and wherein the additional antibody or fragment is labeled;

e. separating particle-target cell complexes from unbound particles, unspecifically bound non-target cells and

unbound non-target cells in the mixture of coated paramagnetic particles and cell suspension by transferring the mixture to a separating apparatus, the separating apparatus comprising a filter having a pore size and shape capable of retaining particle-target cell complexes or rosettes and which filter provides a matrix for cell growth;

f. growing cells of the separated particle-target cell complexes on the filter; and

g. detecting labeled antibody/target cell/particle-immobilized antibody, labeled target cell/particle-immobilized antibody, or labeled antibody/target cell complexes and counting the complexes.

2. The method of claim **1**, wherein the paramagnetic particle is coated with a murine or a human antibody or a fragment thereof.

3. The method of claim **1**, wherein the incubating and rotating of the mixture, or the incubating of the mixture with the additional antibody or antibody fragment, or both, last for 5–10 minutes to 2 hours.

4. The method of claim **3**, wherein the incubating and rotating of the mixture, or the incubating of the mixture with the additional antibody or antibody fragment, or both, last 30 minutes.

5. The method of claim **1**, wherein the incubating and rotating of the mixture, or the incubating of the mixture with the additional antibody or antibody fragment, or both, are at a temperature between 0° C. and 25° C.

6. The method of claim **5**, wherein the incubating and rotating of the mixture, or the incubating of the mixture with the additional antibody or antibody fragment, or both, are at a temperature of 4° C.

7. The method of claim **1**, further comprising preincubating the antibody-coated paramagnetic particle, or the cell suspension, or both, with a detergent capable of eliminating hydrophobic cell interactions prior to incubating and rotating the mixture, wherein the detergent comprises polyoxyethylenesorbitan monolaurate at a concentration less than 0.1% and the preincubation lasts 30 minutes at 4° C.

8. The method of claim **1**, further comprising:

subjecting the incubated mixture of coated paramagnetic particles and cell suspension to a magnetic field to separate any of said particle-target cell complexes from the incubated mixture.

9. The method of claim **8**, further comprising:

immunohistochemical chromogenic staining of the labeled antibody/target cell/particle-immobilized antibody, labeled target cell/particle-immobilized antibody or labeled antibody/target cell complexes.

10. The method of claim **1**, wherein the step of detecting comprises visualizing labeled antibody/target cell/particle-immobilized antibody, labeled target cell/particle-immobilized antibody, or labeled antibody/target cell complexes in the cell suspension employing a microscope, or counting labeled antibody/target cell/particle-immobilized antibody, labeled target cell/particle-immobilized antibody, or labeled antibody/target cell complexes in the cell suspension employing a cell or particle counting device.

11. The method of claim **1**, further comprising:

fixing the cell suspension by pretreating the cell suspension with a fixative selected from the group consisting of formalin and alcohol.

12. The method of claim **2**, wherein the additional antibody or fragment is labeled with an enzyme; the detection step comprises contacting the particle-target cell complexes with a chromogenic substrate which reacts with the enzyme to produce a visible product.

13. The method of claim **12**, wherein the enzyme is peroxidase or alkaline phosphatase.

14. The method of claim **12**, wherein the additional antibody or fragment is biotinylated, the enzyme is complexed to avidin, and labeling comprises forming a complex between the biotinylated antibody or fragment and the avidin complexed enzyme.

15. The method of claim **1**, wherein the label is a non-paramagnetic particle that can be visualized directly because of color or complexation of the particle-target cell with a chromogenic substrate which reacts with the enzyme to produce a visible product.

16. The method of claim **1**, wherein the separating apparatus further comprises a filtrate collection box, a lid, a plurality of multiwell units, and a filter support, and wherein the filter and filter support are detachably fixed to the bottom of the multiwell unit.

17. The method of claim **16**, further comprising the step of: fixing the filter and retained target cell.

18. The method of claim **16**, further comprising contacting the removed filter with a culture medium to establish in vitro cell cultures from the retained complexes.

19. The method of claim **16**, further comprising examining the target cells by biological, biochemical or immunological examination procedures for identifying the presence of one or more specific DNA, mRNA or protein in the target cells.

20. The method of claim **19**, wherein the biological or biochemical examination comprises polymerase chain reaction (PCR) and reverse transcriptase PCR.

21. The method of claim **16**, wherein the filter is fabricated from a material containing pores having a regular and consistent shape and size.

22. The method of claim **21**, wherein the size and shape of the pores is sufficient to retain particle-target cell complexes, while allowing unbound particles, unspecifically bound non-target cells, and unbound non-target cells to pass through the filter.

23. The method of claim **21**, wherein the material comprises a nylon monofilament membrane.

24. The method of claim **21**, wherein the pores have a size of 20 μm.

25. The method of claim **16**, wherein the separating apparatus further comprises a material that is capable of culturing tissues.

26. The method of claim **1**, wherein the antibody or fragment thereof is reactive with an antigen of a normal, living target cell.

27. The method of claim **26**, wherein the target cell is a liver hepatocyte, a Kupffer cell, an endothelial cell type 1 or 2, a Clara cell of the lung, a pancreatic exocrine cell, a kidney tubule cell, a bladder epithelial cell, a brain glial or ependymal cell, a prostate epithelial cell, a ciliated cell of an airway, a mucosal cell in a gastrointestinal tract, a pituitary cell, or an endocrine cell in a hormone producing organ.

28. The method of claim **1**, wherein the antibody or fragment thereof is reactive with a growth factor receptor on a membrane of a normal cell.

29. The method of claim **28**, wherein the growth factor receptor is an epidermal growth factor (EGF)_-receptor, a platelet derived growth factor (PDGF) A receptor, a PDGF B receptor, an insulin receptor, an insulin-like growth factor receptor, a transferrin receptor, a nerve growth factor (NGF)_receptor, or a fibroblast growth factor (FGF) receptor.

30. The method of claim **1**, wherein the antibody or fragment thereof is reactive with an adhesion membrane molecule or a multiple drug resistance (MDR) protein of a normal cell.

31. The method of claim 1, wherein the target cell is a cell with abnormal developmental patterns and the antibody or fragment thereof is reactive with an antigen or a receptor on the cell with abnormal developmental patterns.

32. The method of claim 31, wherein the cell with abnormal developmental patterns is a primary and metastatic cancer cell.

33. The method of claim 31, wherein the antibody or antibody fragment is reactive with breast, ovarian or lung carcinoma cells; melanoma, sarcoma, glioblastoma or cancer cells of a gastrointestinal tract; melanoma, sarcoma, glioblastoma or cancer cells of a genitourinary tract; or melanoma, sarcoma, glioblastoma or cancer cells of a reticuloendothelial system.

34. The method of claim 31, wherein the antibody or antibody fragment is reactive with cells of a non-neoplastic disease.

35. The method of claim 34, wherein the non-neoplastic disease is of a cell selected from the group consisting of a cardiovascular cell, a neurological cell, a pulmonary cell, an autoimmune cell, a gastrointestinal cell, a genitourinary cell, and a reticuloendothelial cell.

36. The method of claim 1, wherein the antibody or fragment thereof is an IgG isotype, a $F(ab')_2$ fragment, a F(ab) fragment, an IgM, or a fragment of IgM.

37. The method of claim 1, wherein the cell suspension comprises mammalian tissue, a pleural effusion, a peritoneal effusion, a bodily fluid, or a solid tumor in a normal tissue or organ.

38. The method of claim 37, wherein the mammalian tissue is selected from the group consisting of human bone marrow and human peripheral blood; the bodily fluid is selected from the group consisting of urine, cerebrospinal fluid, semen, and lymph; and the normal tissue or organ is selected from the group consisting of liver, lymph node, spleen, lung, pancreas, bone, central nervous system, prostate gland, skin, and mucous membranes.

39. The method of claim 1, wherein the antibody or antibody fragment, the additional antibody or antibody fragment, or both is reactive with fibronectin receptor, β-integrin, vitronectin receptor, αγβ33-integrin, P-selectin, GMP-140, CD44-variants, N-CAM, E-cadherin, Le^y, CEA carcinoembryonic antigen, EGF embryonic growth factor receptor, c-erbB-2, HER2, transferin receptor, TNF tumor necrosis factor-receptor, high molecular weight melanoma antigen Mw 250 kDa, p95–100, TP-1 and TP-3 epitope, sarcoma antigen Mw 200 kDa, sarcoma antigen Mw 160 kDa, MOC-31 epitope, cluster 2 epithelial antigen, MUC-1 antigen, DF3-epitope, gp290 kDa, prostate high molecular weight antigen Mw>400 kDa, TAG 72, bladder carcinoma antigen Mw 48 kDa colorectal carcinoma antigen, lung carcinoma antigen Mw 350–420 kDa, Mel-14 epitope, β_2-microglobulin, Apo-1 epitope, or pan-human cell antigen.

40. A kit for performing a method for detecting a specific target cell in a cell suspension, the cell suspension comprising a mixed cell population, a fluid system containing a mixed cell population, or a homogenous cell population prepared from a solid tissue, without detection of normal and malignant hematopoietic cells, the kit comprising:

a. a first antibody or antibody fragment that is capable of reacting with an antigen on said target cell, and wherein the antibody or fragment thereof is coated into a paramagnetic particle;

b. the paramagnetic particle;

c. a second antibody or antibody fragment, that is the same or different as that stated in (a), reactive with an antigen that is the same or different as that stated in (a) or a receptor on the target cell; wherein the antibody or antibody fragment is bound to biotin, avidin, an enzyme, a colored non-paramagnetic particle, a non-paramagnetic particle with a bound enzyme, or a combination thereof;

d. an apparatus for separating particle-target cell complexes from unbound particles, unspecifically bound non-target cells and unbound non-target cells in the mixture of paramagnetic particles and cell suspension, the apparatus comprising a filtrate collection box, a lid, a plurality of multiwell units, a cell separator membrane filter having a pore size and shape capable of retaining particle-target cell complexes or rosettes and which filter provides a matrix for cell growth, and a filter support; wherein the filter and filter support are detachably fixed to the bottom of the multiwell unit; and

e. a paramagnetic or non-paramagnetic particle precoated with a specific target cell antigen for use as a control or standard; wherein the antigens can be the same or different.

41. The kit of claim 40, wherein the enzyme is peroxidase or alkaline phosphatase.

42. The kit of claim 40, wherein the filter is fabricated from a material containing pores, the pores having a size of 20 μm.

43. A method for detecting a specific target cell in a cell suspension, the cell suspension comprising a mixed cell population, a fluid system containing a mixed cell population, or a homogenous cell population prepared from a solid tissue, without detection of normal and malignant hematopoietic cells, the method comprising:

a. pre-coating paramagnetic particles with an antibody reactive with an Fc-portion of an antibody or an antibody fragment reactive with a membrane structure specifically expressed on the target cell and not on a non-target cell in the cell mixture;

b. incubating the cell suspension with an additional antibody or antibody fragment that binds to an extracellular or intracellular molecule present in the target cell, wherein the additional antibody or fragment is labeled;

c. contacting the precoated paramagnetic particles with the cell suspension to form a complex comprising the pre-coated paramagnetic particles, the antibody or antibody fragment reactive with a membrane structure specifically expressed on the target cell and not on a non-target cell in the cell mixture, and the target cell;

d. separating particle/antibody/target cell/additional antibody or antibody fragment complexes from unbound particles, unspecifically bound non-target cells and unbound non-target cells in the mixture of coated paramagnetic particles and cell suspension by transferring the mixture to a separating apparatus, the separating apparatus comprising a filter having a pore size and shape capable of retaining particle-target cell complexes or rosettes and which filter provides a matrix for cell growth;

e. growing cells of the separated particle-target cell complexes on the filter; and

f. counting the particle/antibody/target cell/additional antibody or antibody fragment complexes.

44. The method of claim 43, wherein the step of forming the complex comprises:

coating the pre-coated paramagnetic particles with an antibody or antibody fragment reactive with the mem-

brane structure specifically expressed on the target cell and not on a non-target cell in the cell suspension;

contacting the coated, precoated paramagnetic particles with the cell suspension containing target cells; and

incubating the mixture of coated paramagnetic particles and cell suspension under rotation.

45. The method of claim **44**, wherein incubating the mixture of coated paramagnetic particles and cell suspension lasts for 5–10 minutes to 2 hours.

46. The method of claim **44**, wherein incubating the mixture of coated paramagnetic particles and cell suspension lasts 30 minutes.

47. The method of claim **44**, wherein incubating the mixture of coated paramagnetic particles and cell suspension is conducted at a temperature between 0° C. and 25° C.

48. The method of claim **44**, wherein incubating the mixture of coated paramagnetic particles and cell suspension is conducted at a temperature of about 4° C.

49. The method of claim **43**, wherein the step of forming the complex comprises:

mixing additional antibodies reactive with the membrane structure specifically expressed on the target cell and not on a non-target cell in the cell mixture with the cell suspension containing the target cells;

incubating the mixture under rotation;

adding the pre-coated paramagnetic particles to the incubating mixture; and continuing the incubation.

50. The method of claim **49**, wherein incubating the mixture lasts for 5–10 minutes to 2 hours.

51. The method of claim **49**, wherein incubating the mixture lasts 30 minutes.

52. The method of claim **49**, wherein incubating the mixture is conducted at a temperature between 0° C. and 25° C.

53. The method of claim **49**, wherein incubating the mixture is conducted at a temperature of about 4° C.

54. The method of claim **43**, wherein the antibody or antibody fragment reactive with the membrane structure specifically expressed on the target cell and not on a non-target cell in the cell mixture is a murine or a human antibody or fragment thereof.

55. The method of claim **43**, further comprising preincubating the antibody-coated paramagnetic particle, or the cell suspension, or both, with a detergent capable of eliminating hydrophobic cell interactions prior to incubating the cell suspension, wherein the detergent comprises polyoxyethylenesorbitan monolaurate at a concentration less than 0.1% and the preincubation lasts 30 minutes at 4° C.

56. The method of claim **43**, the method further comprising:

subjecting the complex to a magnetic field to separate any of said particle-target cell complexes from the mixture of coated paramagnetic particles and cell suspension.

57. The method of claim **56**, fuirther comprising:

immunohistochemical chromogenic staining of the labeled antibody/target cell/particle-immobilized antibody, labeled target cell/particle-immobilized antibody or labeled antibody/target cell complexes.

58. The method of claim **43**, wherein the step of counting comprises visualizing and counting labeled antibody/target cell/particle-immobilized antibody, labeled target cell/particle-immobilized antibody, or labeled antibody/target cell complexes in the cell suspension employing a microscope or a cell or particle counting device.

59. The method of claim **43**, further comprising the steps of:

isolating the target_cells by exposing the complex of cells and paramagnetic particles to a magnetic field to magnetically aggregate the cells;

subjecting the magnetically aggregated cells to further biological, biochemical, and immunological examination.

60. The method of claim **43**, fuirther comprising:

fixing the cell suspension by pretreating the cell suspension with a fixative selected from the group consisting of formalin and alcohol.

61. The method of claim **43**, wherein the label comprises an enzyme, the detection step comprises contacting the particle-target cell complexes with a chromogenic substrate which reacts with the enzyme to produce a visible product, and the counting step comprises measuring the amount of said visible product produced.

62. The method of claim **61**, wherein the enzyme is peroxidase or alkaline phosphatase.

63. The method of claim **61**, wherein the labeled antibody or fragment is biotinylated, the enzyme is complexed to avidin, and labeling comprises forming a complex between the biotinylated antibody or fragment and the avidin complexed enzyme.

64. The method of claim **43**, wherein the label is a non-paramagnetic particle that can be visualized directly because of color or complexation of the particle-target cell with a chromogenic substrate which reacts with an enzyme to produce a visible product.

65. The method of claim **43**, wherein the separating apparatus further comprises a filtrate collection box, a lid, a plurality of multiwell units, and a filter support; wherein the filter and the filter support are detachably fixed to the bottom of the multiwell unit.

66. The method of claim **65**, further comprising the step of:

fixing the filter and retained target cell.

67. The method of claim **65**, further comprising contacting the removed filter with a culture medium to establish in vitro cell cultures from the retained complexes.

68. The method of claim **65**, further comprising examining the target cells by biological, biochemical or immunological examination procedures for identifying the presence of one or more specific DNA, mRNA or protein in the target cells.

69. The method of claim **68**, wherein the biological or biochemical examination comprises polymerase chain reaction (PCR) and reverse transcriptase PCR.

70. The method of claim **43**, wherein the antibody or fragment thereof is reactive with an antigen of a normal, living target cell.

71. The method of claim **70**, wherein the target cell is a liver hepatocyte, a Kupffer cell, an endothelial cell type 1 or 2, a Clara cell of the lung, a pancreatic exocrine cell, a kidney tubule cell, a bladder epithelial cell, a brain glial or ependymal cell, a prostate epithelial cell, a ciliated cell of an airway, a mucosal cell in a gastrointestinal tract, a pituitary cell, or another endocrine cell in a hormone producing organ.

72. The method of claim **43**, wherein the antibody or fragment thereof is reactive with an antigen present on a subpopulation of normal cells and with oncogenic products expressed on the membrane of normal tissue cells.

73. The method of claim **43**, wherein the antibody or fragment thereof is reactive with a growth factor receptor on a membrane of a normal cell.

74. The method of claim **23**, wherein the growth factor receptor is an epidermal growth factor (EGF)_-receptor, a

platelet derived growth factor (PDGF) A receptor, a PDGF B receptor, an insulin receptor, an insulin-like growth factor receptor, a transferrin receptor, a nerve growth factor (NGF)_ receptor, or a fibroblast growth factor (FGF) receptor.

75. The method of claim **43**, wherein the target cell ant body or fragment thereof is reactive with an adhesion membrane molecule or a multiple drug resistance (MDR) protein of a normal cell.

76. The method of claim **43**, wherein the target cell is a cell with abnormal developmental patterns and the antibody or fragment thereof is reactive with an antigen or a receptor on said cell with abnormal developmental patterns.

77. The method of claim **76**, wherein the cell with abnormal developmental patterns is a primary and metastatic cancer cell.

78. The method of claim **76**, wherein the antibody or antibody fragment is reactive with breast, ovarian or lung carcinoma cells; melanoma, sarcoma, glioblastoma or cancer cells of a gastrointestinal tract; melanoma, sarcoma, glioblastoma or cancer cells of a genitourinary tract; or melanoma, sarcoma, glioblastoma or cancer cells of a reticuloendothelial system.

79. The method of claim **76**, wherein the antibody or antibody fragment is reactive with cells of a non-neoplastic disease.

80. The method of claim **79**, wherein the non-neoplastic disease is of a cell selected from the group consisting of a cardiovascular cell, a neurological cell, a pulmonary cell, an autoinmnune cell, a gastrointestinal cell, a genitourinary cell, and a reticuloendothelial cell.

81. The method of claim **43**, wherein the target cell antibody or fragment thereof is an IgG isotype, a $F(ab')_2$ fragment, a F(ab) fragment, an IgM, or a fragment of IgM.

82. The method of claim **43**, wherein the cell suspension is selected from the group consisting of mammalian tissue, a pleural effusion, a peritoneal effusion, a bodily fluid, and a solid tumor in a normal tissue or organ.

83. The method of claim **82**, wherein the mammalian tissue is selected from the group consisting of human bone marrow and human peripheral blood; the bodily fluid is selected from the group consisting of urine, cerebrospinal fluid, semen, and lymph; and the normal tissue or organ is selected from the group consisting of liver, lymph node, spleen, lung, pancreas, bone, central nervous system, prostate gland, skin, and mucous membranes.

84. The method of claim **43**, wherein the antibody or antibody fragment, the additional antibody or antibody fragment, or both is reactive with fibronectin receptor, β-integrin, vitronectin receptor, αγβ3-integrin, P-selectin, GMP- 140, CD44-variants, N-CAM, E-cadherin, Le^y, CEA, EGF receptor, c-erbB-2, HER2, transferin receptor, TNF-receptor, high molecular weight meloanoma antigen Mw 250 kDa, p95–100, TP- 1 and TP-3 epitope, sarcoma antigen Mw 200 kDa, sarcoma antigen Mw 160 kDa, MOC-31 epitope, cluster 2 epithelial antigen, MUC- 1 antigen, DF3-epitope gp 290 KDa prostate high molecular weight antigen Mw>400 kDa, TAG 72, bladder carcinoma antigen, Mw 48 kDa colorectal carcinoma antigen, lung carcinoma antigen Mw 350–420 kDa, Mel-14 epitope, β_2-microglobulin, Apo-1 epitope, or pan-human cell antigen.

85. The method of claim **43**, wherein the filter is fabricated from a material containing pores, the pores having a size of 20 μm.

86. A kit for performing a method for detecting a specific target cell in a cell suspension, the cell suspension comprising a mixed cell population, a fluid system containing a mixed cell population, or a homogenous cell population prepared from a solid tissue, without detection of normal and malignant hematopoietic cells, the kit comprising:

a. a first antibody or antibody fragment reactive with a membrane structure specifically expressed on the target cell and not on a non-target cell in the cell mixture;

b. a second antibody or antibody fragment reactive with an Fc-portion of the first antibody, wherein the second antibody or fragment thereof is coated onto a paramagnetic particle;

c. the paramagnetic particle; and

d. a third antibody or antibody fragment, that is the same or different as that stated in (a), reactive with an antigen or membrane structure that is the same or different as that stated in (a) or a receptor within or on the target cell; wherein said antibody or antibody fragment is conjugated to biotin, an enzyme, or a non-paramagnetic particle with a specific color or with a bound enzyme;

e. an apparatus for separating particle-target cell complexes from unbound particles, unspecifically bound non-target cells and unbound non-target cells in a cell suspension of mixed cell populations, the apparatus comprising a filtrate collection box, a lid, a plurality of multiwell units, a cell separator membrane filter having a pore size and shape capable of retaining particle-target cell complexes or rosettes and which filter provides a matrix for cell growth, and a filter support; the filter and filter support are detachably fixed to the bottom of the multiwell unit; and

f. a paramagnetic or non-paramagnetic particle precoated with a specific target cell antigen or group of antigens for use as a control or standard.

87. The kit of claim **86**, wherein the enzyme is peroxidase or alkaline phosphatase.

88. The kit of claim **86**, wherein the filter is fabricated from a material containing pores, the pores having a size of 20 μm.

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